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NECESSITY FOR TEACHING

Hygiene in Schools

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DEDICATION.

This *brochure* is dedicated to the educational authorities of public and private schools, medical colleges, and universities of Nashville, with the hope—since it received recently the unanimous adoption and recommendation of the largest number of medical men ever assembled, *i. e.*, “*The Ninth International Medical Congress*”—that it will lead to the introduction into the curricula of schools a proper method of teaching HYGIENE, thus promoting the public health.

THE AUTHOR.

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NECESSITY FOR TEACHING HYGIENE IN SCHOOLS.

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Notwithstanding the efforts of sanitarians in recent years to enlighten the world upon the importance of public hygiene as a most economic and essential element in human progress and happiness, the sad fact still remains that the greatest obstacle in the way of advancement is ignorance and consequent indifference of the masses upon this vital question. This is truly shown by the opposition with which vaccination is met by a large per cent. of every community, although for nearly a century it has been demonstrated to be an unfailing preventive of a most loathsome and dangerous disease. This was clearly evident among the negroes at Nashville during a fearful epidemic of small pox in 1882-3-4. They have but little fear of small pox, believing it to be a God-given disease. The more superstitious of them regard it as an evidence of religious courage, mortification of the flesh, and acceptance with God, to bravely face it, as well as a direct visitation of Divine Providence. Hence, they firmly believe and say, when the vaccinator proposes to protect them by the operation, "Go 'way from here wid your scratch pins. You can't keep off small pox. God gib us dat, and you can do no good wid your baccinate. If I's gwine to hab de small pox I's gwine to hab it." Some affect to believe that the doctor vaccinates with small pox matter, or some poisonous substance, which gives them disease and kills. So a large per cent. of the lower class of negroes, and many of the same class of whites, have never submitted to the operation, and never will. It is frequently the case when small pox appears in a family, and all the other members are unvaccinated, that they refuse to heed the admonition of the doctor and be protected; hence, the contagion spreads from one to another. Another reason why the disease has been so difficult to

manage is the refusal of the afflicted families to maintain isolation of cases. So, from ignorance and superstition mainly, a large portion of the sick people refused to enter the hospital, or to be vaccinated or isolated, and so its ravages were continued for more than two years.

As knowledge has extended other diseases have alike been proven to be caused by or dependent upon such conditions as are certainly avoidable. Typhoid fever, dysentery, diarrhea, and other forms of bowel troubles have many times been demonstrated to be caused by contaminated drinking water. Klein has shown that scarlet fever is a disease derived from the cow through the medium of the milk. Measles, diphteria, and possibly all infectious diseases, in most instances, are controlable or preventable. Much of the ill health of all communities is known to result from the unsanitary conditions which are found to exist, and yet how impossible often it is, under the prevailing insubordination and general lack of information upon the necessities of hygiene among the masses, for health officers to induce or enforce a compliance with rules and regulations for their removal.

This lack of information and consequent indifference as to sanitary methods is not confined to the people only, but is often as striking among those who are called upon to represent them in the legislatures of the country. Like them, they have not yet been brought to the proper study of the problem. An intimate acquaintance with a number of Tennessee legislatures enables me to state that most members will only endorse and promote such measures, as they say, "as my people want," with a natural disposition not to encourage anything new unless there is a manifest demand for it.

My observation, with much evidence besides, goes to show that in large communities the food supply, especially live stock and dressed meats and sausages, offered for sale should receive not only closer inspection by health officers and boards of health, but, with a view of securing a purer supply, should be the subject of special legislation. I am informed by butchers and the inspection of our sanitary officers that often sick, poor, bruised, and tired beef cattle are received or offered for sale as food in our market. Adulteration of many of the chief articles of diet, such as butter, syrups, teas, canned goods, spices, etc., are known to exist, especially in larger cities, as New York, Philadelphia, Boston, and elsewhere. In the recent legislature of our State a well-prepared

bill was introduced with the view of securing the proper inspection of live stock, dressed meat, and sausages intended for food in cities of over 70,000 population at least, but the ready defeat of the measure showed conclusively how little sympathy or interest the average legislator has in sanitary affairs. The bill was voted down in the Senate by twenty to four, upon the presumption, as an honorable senator remarked to the writer, "that it was a slap in the face of the farmer, and was thought to operate against his interest"—as if the farmer, in offering his meat for sale in the market, has greater rights than those who buy and eat it. Many States in this and other countries protect public health and trade by rigid laws upon the subject. The active opposition displayed by our lawmakers as to the bill clearly shows how far behind we are of the progress and enlightenment of the age.

Health officers, boards of health, physicians, and sanitarians should feel an especial obligation resting upon them to renewed effort in educating the masses upon this and kindred subjects by a more thorough dissemination of sanitary knowledge. It is said that when the people of Great Britain discovered that more than one hundred articles were adulterated, the British Parliament, as long ago as 1815, passed the best law extant, and since known as the "Food and Drugs Act." The present legislature passed a law looking to the manufacture of a purer article of candy, which, while it is to be certainly approved, it is nevertheless difficult to see that a similar bill to secure pure and wholesome meats is less important. We are liable to be imposed upon by having placed upon our market cattle afflicted with Texas fever, pleuro-pneumonia, tuberculosis, and other contagious diseases among cattle in the absence of authorized inspection, which are calculated to prejudice the health of the people. The popular mind should be brought to realize the fact that in divers ways they are being imposed upon either by ignorance or the greediness and unscrupulousness of vendors of articles supposed to be necessary for their health and comfort. Medicines, even, the first and last means to which we resort for the relief of suffering humanity and the prolongation of life, are alike subject to adulteration, or else placed upon the market, with flaming advertisements, in the shape of some worthless elixir, a panacea for some or all the ills to which human flesh is heir. Krauss, chemist, of Memphis, recently analyzed a specimen of a proprietary medicine under the extravagantly advertised name "Tasteless Syrup of Quinine," highly

recommended, he states, by two very reputable physicians of my own town (Nashville), and "found it not to be quinine, but pure commercial cinchonine, the basest of all cinchona alkaloids." This is only one instance of thousands similar that have come to light. In these degenerate days the proper thing to do would be to have all articles intended for food or medicine for man subjected to authorized and competent inspection. To do so, the people must be taught the necessity. Once thoroughly informed, all needed legislation and compliance therewith would follow.

In order to secure, with greater efficiency, necessary laws, and to promote in the highest degree public hygiene in all of its departments, every effort should be made to instill its principles into the popular mind.

For this the first class to whom we should appeal is the *medical profession* itself. They are by nature, education, and practice, the guardians of the health of the communities in which they live, and from every consideration better acquainted with the sanitary demands which surround them than any other class of people in their midst. Moreover, they are usually faithful workers for the public, without money and without price. They only need to recognize a little more sharply the fact, and act accordingly, that *preventive medicine is the medicine of to-day*, and, as Dr. Brunton says, perhaps in the near future doctors will be paid rather to keep people well, than to treat them when sick, observing that "this branch of medicine has been greatly aided by the recent increase of our knowledge of the life history of microbes, and their action in causing disease. Our power to prevent disease will become greater when we know accurately the action of various drugs in destroying these microbes, or preventing their growth."

Medical practitioners are invaluable coadjutors to health officers in that they constitute a vast army of thinkers and readers, who are therefore enlightened and efficient instructors, or may become so, of the modern gospel of sanitation among the people. Instead of becoming alienated they should be more co-operative in all that tends to lessen human suffering and lengthen human life. Sanitation, or preventive medicine, is of recent growth, but in this country, as elsewhere, like all new enterprises, has had to withstand old customs, habits, and ignorance of the people from whom, under our form of government, all laws must spring and be sustained in order to be effective. The prime duty, then, of health officers and medical men is to educate the masses as to the

importance of statutes providing for the successful application of all measures necessary for the removal of all causes operating prejudicially to the public health.

In my field of operation, as County Health Officer, I have been compelled to observe, with regret, a large measure of laggardness and indifference in sanitary measures among my professional brethren, as is shown by their neglect in reporting the existence of infectious diseases as urged, as well as in many other things. They should realize that to *prescribe* sanitation is as much their duty as to prescribe calomel, and that, therefor, they have the same right to take a fee. It does not follow, therefore, that in urging the application of sanitary principles he necessarily destroys his chances for income. If so, upon the same principle he would continue to keep his patient sick. The doctor thrives best and longest who, with any and all measures, restores his patient quickest. Such considerations of selfishness should be abandoned by them, and at once become leaders in sanitary progress.

As Hartshorne remarks, "practitioners of medicine have need to be thoroughly versed in hygiene for its uses in the treatment of their patients, and that air, water, food, sunlight, and other natural agencies, as they are dealt with, war either for or against them." The same author says, in "Annals of Hygiene," "One cause for the insufficient interest of physicians, so far, in sanitary science, has been the general absence of instruction of hygiene in the medical schools. Until the University of Pennsylvania established a chair of hygiene, for a three months' course, in 1866, there was, except a less distinctly professional course in Harvard College, nothing of the kind in this country. In hardly any other medical school to-day, in the United States, is there more than a nominal inclusion of hygiene, under the wing, so to speak, of physiology. This ought not so to be. Hygiene, coming naturally between physiology and pathology on the one hand, and therapeutics on the other, ought to have a full place in every medical curriculum. It should be granted a professorship to itself, in the winter course, with examinations compulsory for every graduate. Only when this is done, and the whole acquaintance of the physician with the subject is no longer postponed till after graduation, then to be picked up, as it may be, here and there, only then will it be possible for the members of the medical profession fully to maintain the place which is theirs of right, that of thoroughly equipped scientific and practical leaders in sanitary progress.

The time may, indeed, and ought to come, when sanitary counsel may be called for and professionally given, in a manner analogous to that of legal advice, to *prevent* instead of only to remedy disaster. If a careful man has property to bequeath he consults a lawyer about his will. When he has a house or farm to sell, or proposes to buy one, a lawyer or conveyancer inspects the title, and sees to the proper and safe conduct of the transaction. So, why should not the family sanitary adviser be consulted about the situation, construction, drainage, and ventilation of a proposed new dwelling to be built or bought?"

All Medical Colleges should set the example by establishing regular professorships on public hygiene, and thus assume a prominence and advantage to which, in the nature of their calling, they are justly entitled. Not only in medical colleges should public hygiene be taught, but also in the *universities and literary colleges* of the country: it should be embraced in their curriculum. Systematic and thorough text-books upon the subject should be introduced, and a faithful study of the subject be enjoined upon the pupil. It would be better for all such institutions to employ a thoroughly educated physician and practical sanitarian as the instructor and lecturer in this department, and at the same time supervise and direct the sanitation of the institution; a subject of the greatest moment to schools where, at the tender age of youth, so many are thrown together. Anatomy and physiology have, to a limited extent, been taught in many schools for years, but in this country I have been unable to learn that text-books upon hygiene and instruction thereon have been added to any considerable extent. The subject, however, here and there, seems to have received some attention. In a recent letter to the writer from Dr. Henry B. Baker, Secretary of the Michigan State Board of Health, he states: "In Michigan we have, for some time, had *lectures* on sanitary science in our University, at Hillsdale College, Albion College, and the State Agricultural College. Some of our high schools are becoming interested in the subject." As a further means of enlightenment, leading universities of different States could not do better than to imitate the energy, intelligence, and liberality of Michigan by securing, in some way, the means necessary to establish a laboratory of hygiene and physics. He says, "We are now breaking ground for a thirty thousand dollar building in Ann Arbor, which will be given up to the laboratory of hygiene and the laboratory of physics. Five thousand dollars have been ap-

propriated for their equipment." While in European countries such laboratories are numerous, in the United States, perhaps, there are none except at University of Harvard, Johns Hopkins University, and prospectively at Ann Arbor.

PUBLIC SCHOOLS.

Another means for further and more rapid and effective diffusion of a knowledge of hygiene would be to teach it in the public and private schools of the country, especially to the advanced classes. Latin, Greek, Hebrew, algebra, rhetoric, logic, high art, and music, and many other things are taught in such schools that in after life are found to be comparatively useless to the masses in their struggles for bread. Could not a knowledge of hygiene be imparted in these schools, by systematic teaching, which, in the serious march of life, would be equally, if not far more important? Is it not as practicable to instil a knowledge of hygiene into the minds of pupils as that of dead languages, philosophy, or political economy? Is it more valuable, or productive of more happiness, to possess a knowledge of belleslettres than to understand how the human body is dependent upon and effected for life or death by surrounding elements and conditions? Is a knowledge of logarithms, trigonometry, or calculus, more conducive to health and wealth than a knowledge of house construction, home sanitation, or prevention of epidemics? I would not be understood as underrating the knowledge acquired by pursuing the usual curricula of our schools, but submit that the minds which grapple so successfully with their intricate and ornamental problems can as easily, and with far more practical advantage, master the principles of sanitary science.

According to the census of the United States in 1880, there were attending the various schools of the country 9,946,160 pupils. Suppose this number, or even half, with graded and suitable textbooks, were being instructed, as in other studies, in the principles of hygiene? Who could compute the wonderful revolution that would inevitably follow upon the subject of public health within a dozen years in this country? What a diffusion of knowledge, and influence for good, would be wrought all over the land, as they would enter upon the pursuits of life? What more potent method could be adopted for the dissipation of the incubus of ignorance which prevails as to the anatomy, physiology, and hygiene of the human body? I once asked an intelligent lawyer, as we were

viewing a manikin, to point to the place where he thought the stomach was. Placing his finger on top of the sternum he said, "There, there it is." I replied, you are mistaken. "Well," said he, "there is where I feel sick when I puke." As truthfully remarked by the Rev. J. L. Patton, of Michigan: "There is scarce any subject of human knowledge of which the mass of men know so little as their own proper selves. It is hard to illustrate. Here is a man of mature years who, when asked the other day what the thorax is, said that it is a big vein that runs down the backbone. But that man is a practicing surgeon, had performed an autopsy on the body of a murdered woman, and made this answer on the witness stand of the circuit court. What, then, must be the condition of the laymen?" Further: "It is said, and there is good show of authority for it, that knowledge is power. George Eliot asks why nobody ever speaks of the power of *ignorance*. Ignorance is not properly power. It cannot tunnel a mountain—it is the mountain to be tunneled—lies in the way of every proper accomplishment by power. It is weakness to the mind, and weakness and death to the body. This ignorance of men in mass as to the anatomy of their own persons and of the physiology and hygiene pertaining thereto, means ignorance of the laws of health and their consequent violation and penalty. Sanitary reform will make no headway worth mention through such ignorance. It is not enough that some physicians and a few experts and specialists be intelligent as to sanitary science. The people will not gather themselves up and do these things merely because they are told that this will be best for them. To the end that they may live long and to best purpose, the object to be attained, people must themselves become intelligent—how to build their homes and cities, how to eat and how to sleep, how to work and how to rest, how to keep the earth clean where they are, and the air, and the water, also themselves and everything about them. They must know how best to keep up the wholesome balance between the activities of the physical man and those of the mind. They must also know how best to keep every part of their own animal economy at its own proper work, and fully up to the requirements upon it of the whole man. They must also see how these things are necessary. All this may be the work properly of the common schools of the land, but it is the proper part of sanitarians to call for it. If our boys and girls, at the age of sixteen years, could chart the arterial and venous system of the human

body, and have sufficient knowledge of its functions and hygiene, they could afford to be ignorant of the river systems of Europe, Asia, and Africa, and if they could also have knowledge of the nervous system, the system of digestion and nutrition, the respiratory system, and the mechanics of the bones, with their several functions and hygiene, they could afford, even as a means of mental discipline, to leave out the rest of their geography, their definitions of dictionary words, and part of their mathematics. This would give foundation for sanitary reform such as might, in time, bring human life up to its natural duration of a hundred years."

In a recent letter from Dr. Ezra M. Hunt, Secretary of the State Board of Health of New Jersey, and teacher of hygiene in the normal school at Trenton, he says, with reference to teaching hygiene in the public schools: "I have thought much upon the subject upon which you speak, and have the conviction that we will not reach great reforms in the care of public health until our children are taught in the schools what are the conditions of health. This will not come by the mere teaching of physiology. We must directly teach hygiene. One of the first things is to teach teachers. I do not believe any text-book takes the place of the teacher. My own classes enjoy it as much as any study they have, and get out of it science and mental training as well as practical facts."

In view, therefore, of the benefits to be derived from a diffused knowledge of hygiene, may it not be pertinently suggested that sanitarians throughout the land arouse themselves to increased efforts to have the subject embraced in the curricula of the schools, and advise the teaching of the subject be entrusted to thoroughly competent physicians and practical sanitarians? In this way there will be indelibly impressed upon the minds of youth valuable facts pertaining to the conservation of health, which is, indeed, individual as well as public wealth.

Should this paper contribute in any wise to the agitation or adoption, by the various school authorities of the land, the views herein imperfectly presented, then would I feel conscious that having thus complied with an invitation to write upon the subject of public hygiene for the Ninth International Medical Congress had not been wholly in vain.

NASHVILLE, TENN., August 12, 1887.

HYGIENE IN SCHOOLS.

The *Medical Register* Saturday, September 10, 1887, in its report of the meeting of doctoors, has the following:

“Dr. W. C. Cook, Health Officer, of Nashville, read a paper on ‘Teaching Hygiene in Schools,’ in which he advocated that hygiene be added to their curriuela; that medical colleges establish regular professorships. Universities and colleges should employ suitable text books and competent medical men and sanitarians in order to properly impress the minds of pupils. The section unanimously indorsed the sentiments of the paper, as was shown by the following resolutions, offered by Dr. Benjamin Lee, of Philadelphia:

• *Resolved*, That this section cordially indorse the suggestions of Dr. Cook’s paper on the necessity for the teaching of hygiene in schools, and recommend to the Congress the passage of the following resolution:

Resolved 1. That it is the sense of the Ninth International Medical Congress that every medical college should place the chair of hygiene on its currielenum, and on an equal footing with the other regular branches of instruction.

2. That in all universities, colleges, and high schools, hygiene should form a compulsory part of the course of study, and should be taught not simply through text-books but by educated physicians.

3. That in all public schools the teaching of hygiene should form a prominent and essential feature.

4. That every State legislature should establish a museum and laboratory of hygiene.”

The resolutions were adopted not only by the section of hygiene, but also by the entire Medical Congress.

